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REMARKS

Claims 1-19 are pending in the application. Claim 19 has been amended herein to correct a typographical error. Favorable reconsideration of the application, as amended, is respectfully requested.

I. ALLOWABLE SUBJECT MATTER

Applicant notes with appreciation the indicated allowability of claims 8-14. These claims will be in condition for allowance upon being amended to independent form.

II. REJECTIONS OF CLAIMS 1-7 AND 15-19 UNDER 35 USC §102(b)

Claims 1, 4-7, 15 and 18-19 stand rejected under 35 USC §102(b) based on *Casabona et al. (USP 5,872,540)* or *Cantwell et al. (USP 5,410,750)*. Claims 1-7 and 15-19 stand rejected under 35 USC §102(b) based on *Maloney (USP 6,127,975)*. Applicant respectfully traverses each of these rejections for at least the following reasons.

Claims 1 and 15:

Claim 1 defines a *direct sampling* GPS receiver for anti-interference operations. Claim 1 specifically recites an input for receiving an analog interference signal *at GPS frequencies*. Claim 1 further recites an analog-to-digital converter (ADC) which converts the analog interference signal into a digital signal. As defined in claim 1, the analog interference signal is a signal *at GPS frequencies*. Consequently, claim 1 recites an ADC which converts the analog interference signal *at GPS frequencies* into a digital signal. As such, the GPS receiver of claim 1 is *direct sampling*. The analog interference signal is not first mixed down to an intermediate frequency (IF) or baseband signal. (See, e.g., Spec., p. 6, lns. 13-19).

Claim 15 recites a method for conducting direct sampling GPS anti-interference operations. The method includes the steps of receiving an analog interference signal at GPS frequencies and converting the analog interference signal, which is at GPS frequencies as defined in the claim, into a digital signal.

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Casabona et al.:

The Examiner relies on *Casabona et al.* as teaching an analog-to-digital converter 13 which converts an analog interference signal as recited in claims 1 and 15. Applicant respectfully disagrees for at least the following reasons.

FIG. 2

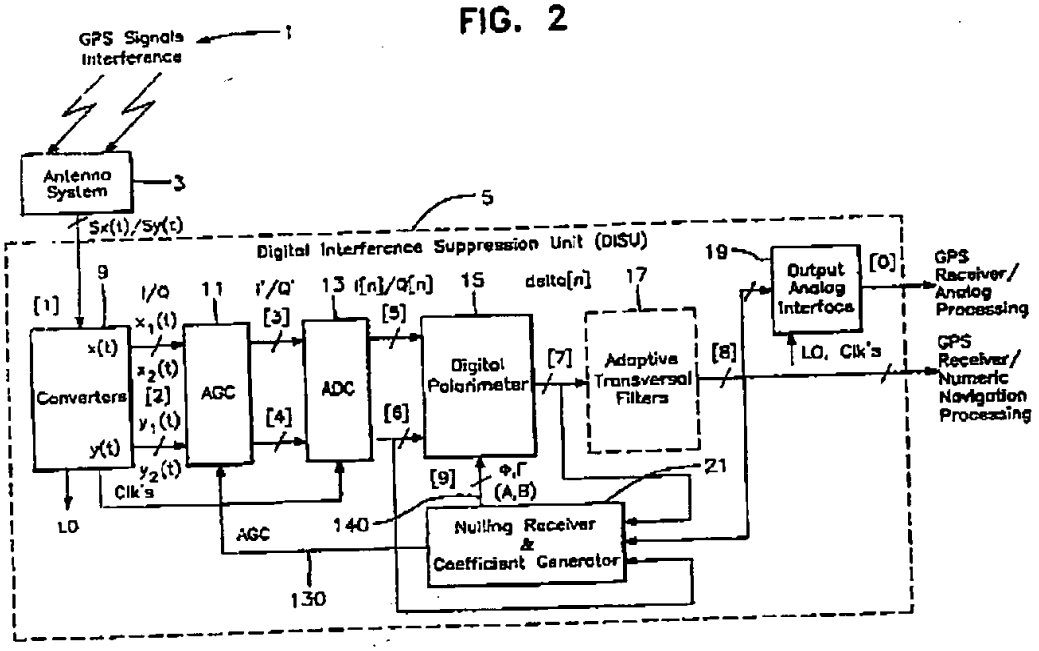

Fig. 2 of Casabona et al.

Fig. 2 of *Casabona et al.* (reproduced above), illustrates how the GPS signals/interference are received by an antenna system 3 and input to a converter 9. As is shown in more detail in Fig. 4 of *Casabona et al.*, the converter 9 includes mixers and a local oscillator for downconverting the GPS signals/interference to a baseband or near-baseband signal. (See, e.g., Col. 12, ln. 54 to Col. 13, ln. 2). Thus, it is the *baseband or near-baseband signal* in *Casabona et al.* that is converted into a digital signal by the ADC 13. This is consistent with the prior art techniques discussed in the present application. (See, e.g., Spec., p. 2, lns. 14-18).

Casabona et al. does not teach or suggest an ADC which converts an analog interference signal, which is *at GPS frequencies*, into a digital signal as recited in claims

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1 and 15. Therefore, claims 1 and 15 together with the claims dependent therefrom may be patentably distinguished over the teachings of *Casabona et al.*

Cantwell et al.:

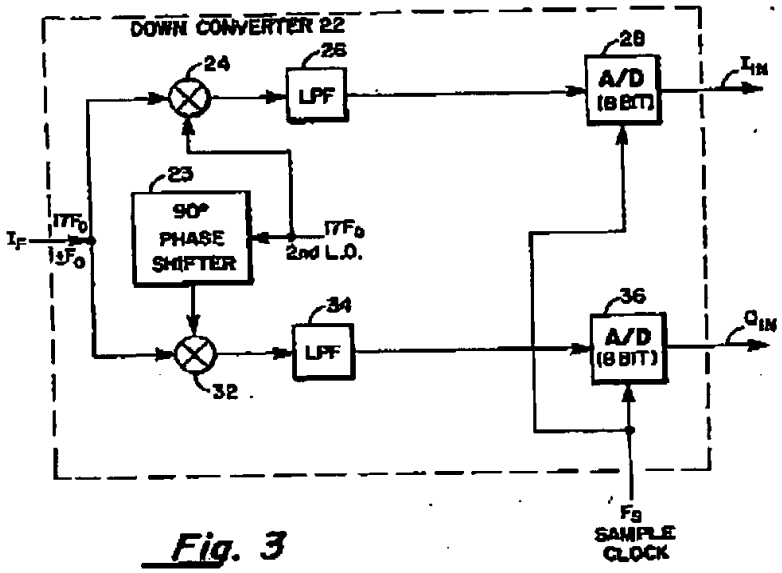

Fig. 3

Fig. 3 of Cantwell et al.

Pointing to Fig. 3 of *Cantwell et al.* (reproduced above), the Examiner refers to analog-to-digital converters 28 and 36 as corresponding to the ADC and converting steps recited in claims 1 and 15, respectively. However, just like *Casabona et al.* discussed above, Fig. 3 of *Cantwell et al.* illustrates how the input signal I_F is first down converted via mixers 24 and 32, and local oscillator 2nd LO before being converted to a digital signal.

Thus, even assuming, *arguendo*, that the input signal I_F is at GPS frequencies, the downconverted signal which is converted by the A/D's 28 and 36 is not. Furthermore, applicant notes that the input signal I_F actually represents an intermediate frequency signal output from the receiver IF front end section 16 as shown in Fig. 1 of *Cantwell et al.* In other words, the RF signal in *Cantwell et al.*, which may contain

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signals at GPS frequencies, is down-converted twice before the resultant baseband signal is converted to a digital signal by the A/D's 28 and 36.

Accordingly, *Cantwell et al.* also does not teach or suggest an ADC which converts an analog interference signal, which is *at GPS frequencies*, into a digital signal as recited in claims 1 and 15. Therefore, claims 1 and 15 together with the claims dependent therefrom may be patentably distinguished over the teachings of *Cantwell et al.*

Maloney:

In the case of *Maloney*, the Examiner refers to the analog-to-digital converter 904 in the digital signal acquisition section 801 as shown in Fig. 14. However, applicant notes that the digital signal acquisition section 801 is operative on the input signal s(t) as represented in Fig. 13 of Maloney.

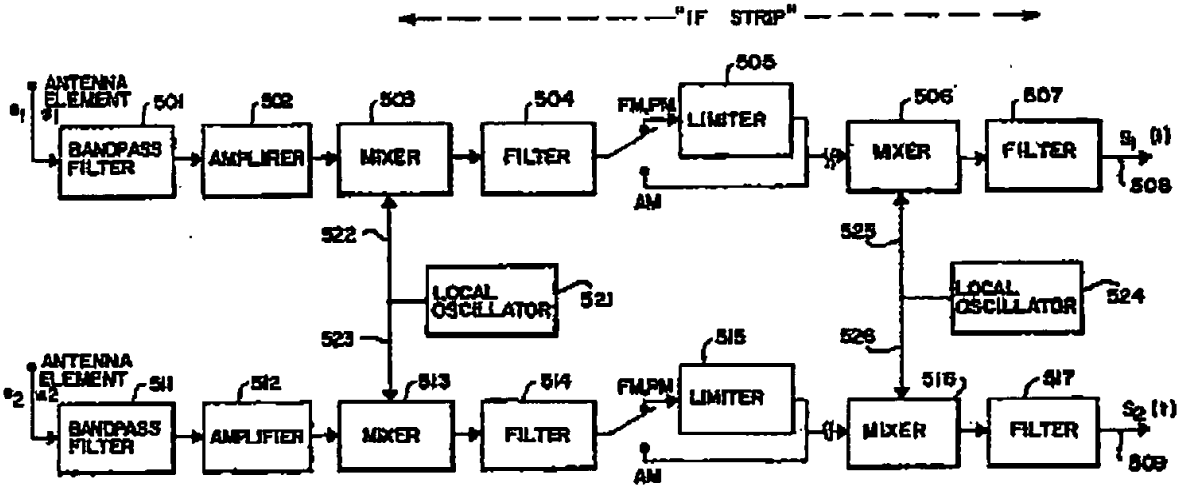

Fig. 10 of Maloney

Referring to Fig. 10 of *Maloney* (reproduced above), the signal s(t) is input to the digital signal acquisition section 801 (and hence the ADC 904) from the output of the IF strip. As is clearly shown in Fig. 10 of *Maloney*, the RF signal received by the antenna

elements 1 and 2 is downconverted twice into an IF signal (mixers 503/513 and LO 521) and then into a baseband signal s(t) (mixers 506/516 and LO 524) before being converted to a digital signal by the ADC 904.

Thus, *Maloney* similarly does not teach or suggest an ADC which converts an analog interference signal, which is *at GPS frequencies*, into a digital signal as recited in claims 1 and 15. Therefore, claims 1 and 15 together with the claims dependent therefrom may be patentably distinguished over the teachings of *Maloney*.

For at least the above reasons, withdrawal of each of the rejections is respectfully requested.

III. CONCLUSION

Accordingly, all claims 1-19 are believed to be allowable and the application is believed to be in condition for allowance. A prompt action to such end is earnestly solicited.

Should the Examiner feel that a telephone interview would be helpful to facilitate favorable prosecution of the above-identified application, the Examiner is invited to contact the undersigned at the telephone number provided below.

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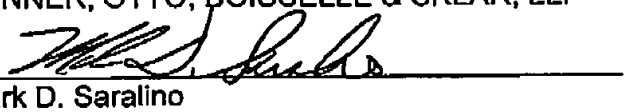
Should a petition for an extension of time be necessary for the timely reply to the outstanding Office Action (or if such a petition has been made and an additional extension is necessary), petition is hereby made and the Commissioner is authorized to charge any fees (including additional claim fees) to Deposit Account No. 18-0988.

Respectfully submitted,

RENNER, OTTO, BOISSELLE & SKLAR, LLP



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DATE: November 24, 2004

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